WHAT IS CLAIMED IS:

1. A permanent magnet rotor, comprising:

a rotor core having a circumferential surface;

a plurality of slits formed in the rotor core, each slit having a first end and a second end that extend to the circumferential surface of the core, each slit having a radially outward side and a radially inward side, each slit having a longitudinal middle portion between the first end and the second end at which a portion of the rotor core forms a bridge across the slit to interconnect a portion of the rotor core on the radially outward side of the slit with a portion of the rotor core on the radially inward portion of the slit; and

a permanent magnet embedded in each slit.

2. The permanent magnet rotor of Claim 1, wherein each permanent magnet comprises a bond magnet that fills the slit in a liquid form and is solidified.

3. The permanent magnet rotor of Claim 2, wherein each slit has inside surfaces, and wherein the inside surfaces of each slit has projections or recesses formed thereon, which projections or slots are adapted to engage with the bond magnet when the bond magnet is solidified.

4. The permanent magnet motor of Claim 3, wherein the bridges are inclined with respect to the direction of magnetization of the permanent magnets.

5. The permanent magnet motor of Claim 2, wherein the bridges are inclined with respect to the direction of magnetization of the permanent magnets.

6. The permanent magnet motor of Claim 1, wherein the bridges are inclined with respect to the direction of magnetization of the permanent magnets.

7. A permanent magnet rotor, comprising:

a rotor core having a circumferential surface;

a plurality of slits formed in the rotor core, each slit having inner surfaces, each inner surface having projections or recesses formed thereon, each slit having a respective radially outward portion of the rotor core on one side of the slit and having

a respective radially inward portion of the rotor core on an opposite side of the slit; and

a permanent magnet embedded in each slit by filling each slit with bond magnet that solidifies, the bond magnet engaging the projections or recesses when solidified to interconnect the respective radially outward portion of the rotor core on the one side of the slit with the respective radially inward portion of the rotor core on the opposite side of the slit.

8. A permanent magnet rotor, comprising:

a rotor core having a circumferential surface;

a plurality of slits formed in the rotor core, each slit having a radially outward side and a radially inward side, each slit having a longitudinal middle portion at which a portion of the rotor core forms a bridge across the slit to interconnect a portion of the rotor core on the radially outward side of the slit with a portion of the rotor core on the radially inward portion of the slit, the bridge inclined with respect to a magnetization direction; and

a permanent magnet embedded in each slit and magnetized in the magnetization direction.

9. A method of making a permanent magnet rotor with a rotor core having permanent magnets embedded therein, comprising:

forming slits in the rotor core to receive embedded permanent magnets, each slit having a first end and a second end, the first end and the second end of each slit extending to an outside circumferential surface of the rotor core so that the first and second ends form openings at the outside circumferential surface of the rotor core; and

using the openings formed by the first and second ends of the slits to align the rotor core at a fixed angular position while processing the permanent magnets embedded in the slits.

10. The method of Claim 9, wherein the permanent magnets are embedded in the slits by filling the slits with bond magnet and solidifying the bond magnet after the slits are filled.

11. The method of Claim 10, where in the permanent magnets are magnetized by applying a magnetic field to the permanent magnets after the slits are filled using the alignment provided by the openings at the first and second ends of the slits to align the magnetic field.